Author Index of Volumes B6 and B7

Aberl, F., 188
Accorsi, A., 656
Ache, H. J., 473, 540
Adami, M., 343
Agapito, J. A., 609
Aldea, C., 771
Alegret, S., 555
Amati, D., 587
Andreeva, A. N., 738
Antonova, O. Yu., 492
Arenkov, P. Ya., 371
Arés, L., 609
Armstrong, D., 332
Arn, D., 587

Bacci, M., 752
Baldini, F., 752, 775
Balova, I. A., 208
Bals, I., 665
Baltes, H., 165
Bannister, J. V., 549
Barbaro, A., 202
Barbi, G. B., 637
Barner, R., 122
Barnes, C., 347
Barraud, A., 197
Bartroli, J., 555
Battilotti, M., 535
Bausells, J., 555
Baykov, M. V., 505
Bearzotti, A., 29, 447, 451, 460, 685
Bechi, P., 775
Beranger, M., 266
Berezin, V. A., 371
Bergveld, P., 101, 304, 479
Bernabei, M., 513
Bernardi, L., 143
Bertocchi, P., 431
Bidan, G., 45
Bieger, T., 763
Bier, F. F., 509
Bilitewski, U., 321, 351, 509
Bini, A., 775
Block, R., 596
Blom, N., 587
Boccuzzi, F., 645
Böcher, M., 509
Bode, M., 733
Bomer, J., 304
Borraccino, A., 535
Botrè, C., 427
Botre, F., 427
Bourgoin, J.-P., 197
Bovenkamp, H. J. v. d., 363
Bowman, H. F., 87
Brecht, A., 96
Brenci, M., 780
Briones, F., 614
Britland, S., 113
Bruno, A. E., 66
Buttà, N., 253
Bychkov, E. A., 501

Caliendo, C., 602, 685
Calle, A., 614
Cammann, K., 19, 488, 572, 758
Campanella, L., 383, 535
Caneiro, A., 299
Canini, A., 431
Cantalini, C., 464
Carbonne, B., 279
Carelli, P., 29
Carotta, M. C., 717
Čeh, M., 439
Chemnitius, G. C., 351
Chiabrera, A., 419
Chiorino, A., 645, 691
Cincotti, S., 419
Cinquegrani, L., 253
Clark, P., 113
Clemendot, S., 197
Cobben, P. L. H. M., 304
Colapicchioni, C., 202
Colella, C., 464
Colin, L., 656
Compagnone, D., 549
Connolly, P., 113
Cosi, F., 752, 775
Covington, A. K., 219
Cremisini, C., 513
Cristea, O., 518
Crovini, L., 529
Cunin, P., 274
Czolk, R., 540

D'Amico, A., 447, 451, 460, 464, 602, 677, 685
Danielsson, B., 127, 138
Davini, E., 580
de Frutos, J., 170
Del Bianco, A., 752
Delhomme, G., 87, 327
del Valle, M., 555
Demarne, V., 704
Depeursinge, C., 332
de Rooij, N. F., 57, 66
Derost, G., 197
De Rossi, D., 399
Di Bartolomeo, C., 399
Dickert, F. L., 25
Di Natale, C., 460
Dittmar, A., 87, 327
Dominguez, C., 555
Drewes, W., 321
Drost, S., 285
D'Silva, C., 347
Dura, H. G., 162
Duret, D., 266
Dutronc, P., 279

Egberink, R. J. M., 304
Ehrat, M., 587
Ehrhardt, J. J., 656
Eijsma, B., 308
Emde, C., 332
Endres, H.-E., 285
Engbersen, J. F. J., 363
Erbach, R., 211
Erhardt, W., 91
Eryshkin, A. V., 727
Esteve, J., 555

Fabricius, N., 672
Fabry, P., 299
Faccio, M., 464, 677
Faglia, G., 721
Falciai, R., 775
Fattinger, Ch., 122
Federici, G., 549
Feijen, J., 101
Fernicola, V., 529
Ferri, G., 464, 677
Fickler, G., 596
Fiorillo, A. S., 399
Fleischer, M., 257
Fortunato, G., 29
Friebe, A., 497
Furlani, A., 447, 451

Galdikas, A., 633
Garcés, I., 771
Gardner, J. W., 71
Gauglitz, G., 83, 96, 672
Geistlinger, H., 619
Gerblinger, J., 231, 787
Ghiotti, G., 691
Gilderman, V. K., 738
Gimmel, P., 192
Gizeli, E., 131
Goddard, N. J., 131
Golmayo, D., 614
Golovan, N., 289
González, A. M., 170
Göpel, W., 192, 709
Grattarola, M., 484, 561
Gratteri, P., 544
Grilli Caiola, M., 431
Grisel, A., 332, 704
Gropelli, S., 721, 747
Gross, G. W., 1
Gründig, B., 393
Guglielminotti, E., 645
Gumbrecht, W., 91
Gusmano, G., 460
Gutiérrez, F. J., 609
Guzzi, D., 780

Haak, J. R., 34, 101, 304
Haemmerli, S., 404
Hale, J., 665
Hamann, C., 522
Hämmerle, M., 106
Hanrieder, W., 792
Harkoma-Mattila, A., 248
Hauden, D., 274
Haunschild, A., 25
Hauptmann, P., 733
Hawa, G., 356
Hedberg, U., 138
Hedborg, E., 157, 661
Heilmann, A., 522
Hesselink, G. L. J., 363
Hintsche, R., 497
Hoffmann, B., 211
Hofmann, P., 25
Holc, J., 439
Holterman, H. A. J., 34
Honig, G. W. N., 34
Horrillo, M. C., 609
Hostika, B. J., 162
Hoummady, M., 274
Hrovat, M., 439
Huang, Y. L., 299
Huber, W., 122
Hübscher, J., 122
Hutter, F., 285
Huusko, J., 700

Ingenhoff, J., 96, 672
Iucci, G., 447, 451

Jachowicz, R. S., 455
Jähnig, F., 192, 376
Janata, J., 389
Janker, G., 389
Jeandey, C., 266
Jeanneret, S., 57
Jimenez-Jorquera C., 555
John, E., 376
Jones, J. P., 347
Jordan, R., 1
Jouvet, M., 87

Karymov, M. A., 208
Kazmierczak, M., 656
Kindervater, R., 192
Klee, B., 192, 376
Knoll, M., 488
Koch, S., 188, 315
Kohl, D., 262
Koller, H., 122
Kornely, S., 792
Kösslinger, C., 285
Kötter, C., 488
Krattiger, B., 66
Krause, S., 497
Kremer, F. J. B., 101
Kreuwel, H. J. M., 363
Kruchinin, A. A., 208

Kruise, J., 101
Krutovertsev, S. A., 492

Lambeck, P. V., 363
Lampe, U., 787, 792
Langer, G., 518
Lantto, V., 223, 248, 522, 700
Lanzi, M., 427
Larini, M., 544
Lauricella, A., 637
Lavagnini, M. G., 431
Lechuga, L. M., 614
Lehn, C., 393
Lemke, U., 488
Lenggenhager, R., 165
Leoni, R., 29
Leppävuori, S., 248
Letuchy, Ya. A., 492
Lévy, F., 704
Lewis, T. J., 347
Lindner, G., 596
Lisdat, F., 497
Liu, J., 270
López, F., 170
Lowe, C. R., 131, 339
Lucat, C., 279
Lüdi, H., 66
Lukaszewicz, J. P., 61
Lukosz, W., 122
Lumpp, R., 473
Lundström, I., 127, 157, 661
Lychkovsky, I. N., 505

Mages, G., 25
Maier, J., 763
Malchenko, S. N., 505
Malyshev, V. V., 727
Mann-Buxbaum, E., 356
Manz, A., 66, 404
Marchese, L., 691
Mari, C. M., 637
Mariucci, L., 29
Martinelli, G., 717
Martinoia, S., 484, 561
Martūnas, Z., 633
Mascini, M., 79, 143, 431, 513, 602
Massobrio, G., 484, 561
Mateo, J., 771
Matsuguchi, M., 443
Maystre, F., 66
Mazzamurro, G., 580
Mazzei, F., 427
Meixner, H., 231, 257, 787, 792
Meixner, L. K., 315
Mencaglia, A., 780
Menil, F., 279
Merdrignac, O. M., 651
Mickle, L. D., 285
Mignani, A. G., 780
Milanesi, F., 775
Miloshova, M. S., 501
Miszei, J., 223
Modrow, S., 188
Mokwa, W., 162, 758
Monaghan, W., 113
Montag, B., 91
Montesperelli, G., 460
Moores, G. R., 113
Moritz, W., 497
Moscone, D., 143, 602
Moseley, P. T., 149, 651
Moser, D., 165
Moser, I., 356
Moussavi, M., 266
Mugno, E., 253
Müller, F., 122
Müller, H., 596
Müller, M., 522
Murata, Y., 443

Nannini, A., 399
Narducci, D., 637
Navarro, A., 170
Nelli, P., 721, 747
Newman, W. H., 87
Nicolini, C., 343
Norberg, P., 127

Olthuis, W., 479
Ottenbacher, D., 192

Palguev, S. F., 738
Palleschi, G., 513
Papeschi, G., 544
Parodi, M., 419
Patrat, G., 299
Pauchard, T., 327
Peat, R., 651
Pecora, A., 29
Pelino, M., 464
Petrocco, G., 460
Pham, M. T., 576
Pinzauti, S., 544
Piotto Piotto, A., 580
Pistre, J., 274
Pittner, F., 356
Pizzini, S., 253
Planade, R., 274
Poghossian, A. S., 367
Polykarpov, M. A., 626
Ponti, P. P., 677
Popma, Th. J. A., 363
Porcelli, F., 202
Porcelli, G. L. F., 427
Pucciani, F., 775

Quaranta, F., 747

Rachkov, A. E., 371
Rakohl, M., 356
Rank, M., 138
Rantala, T. S., 248
Rapallo, A., 343
Rasumov, A. S., 727
Rau, H., 733
Rebiere, D., 274
Reichert, J., 473, 540
Reichert, M., 83
Reinhoudt, D. N., 34, 101, 179, 304, 363
Remisova, L. A., 208
Rhoades, B., 1
Rispens, J. G., 101
Robla, J. I., 609
Rongen, R., 262
Rosenfeld, D., 704
Rospert, M., 758
Ross, B., 758
Ruandel-Teixier, A., 197
Rüger, P., 351
Russo, M. V., 447, 451

Sadaoka, Y., 443
Saini, S., 408
Sakai, Y., 443
Sammartino, M. P., 383, 535
Sanjinés, R., 704
Sartore, M., 343
Saunois, J., 587
Savelli, G., 677
Sayago, I., 609
Sberveglieri, G., 239, 721, 747
Schaeffler, A., 404
Schalkhammer, T., 356
Schasfort, R. B. M., 308
Schaub, M., 211
Scheller, F. W., 408, 412, 497
Schelter, W., 91
Schierbaum, K. D., 709
Schlatter, D., 122
Schmautz, A., 38
Schmid, R. D., 321, 351, 509
Schmidt, H.-L., 106, 389, 393
Schöneberg, U., 162
Schubert, F., 408, 412
Schuhmann, W., 106, 389, 393
Seiler, K., 295
Seleznev, B. L., 501
Šetkus, A., 633
Shen, J., 113
Shurmer, H. V., 71
Simon, W., 295
Slunečko, J., 439
Smynthyna, V., 289
Sofield, C. J., 651
Sommer, V., 262
Sorokin, S. I., 492
Spetz, A., 157, 661
Starmans, D., 101
Starodub, N. F., 371
Stehle, G., 665
Stevenson, A. C., 131
Stöcklein, W., 509
Sugden, S., 651
Sukhodolov, N. G., 208
Sundermeier, C., 488
Sundgren, H., 157
Sykora, U., 91
Sypniewska, Z., 565
Szeponik, J., 497

Tagliente, A., 253
Tan, T. T., 71
Tarantov, Yu. A., 208
Taroni, A., 721
Thybaud, L., 332
Tobias, P., 262
Tomassetti, M., 383, 535
Torbicz, W., 565
Torvela, H., 700
Tragut, C., 742
Traversa, E., 460
Turner, A. P. F., 408

Ufer, S., 572
Uhe, B., 389
Urban, G., 356

Valdes-Perezgasga, F., 219
Valentini, A., 747
van den Berg, A., 57
van den Vlekkert, H. H., 34
van der Schoot, B. H., 57, 66
van der Wal, P. D., 34
Vandevyver, M., 197
van Wingerden, A., 34
Varfolomeev, A. E., 727
Vasanelli, L., 747
Vasiliev, A. A., 626
Verkerk, U. H., 34
Vernet-Maury, E., 327
Verona, E., 602, 685
Verpoorte, E., 66
Vianni, F., 332
Vlasov, Yu. G., 501
Vogt, H., 162
Volkov, A. I., 727

Wachutka, G., 165
Waser, R., 763
Wegner, G., 211
Weimar, U., 709
Wei Xiong Pan, 691
Weppner, W., 270
Widmer, H. M., 66, 404, 587
Winquist, F., 127, 157, 661
Wohnhas, M., 596
Woias, P., 188
Wolf, H., 188
Wollenberger, U., 412

Xie, B., 127, 138

Yakimov, S. S., 727
Yamazoe, N., 9
Yanklovich, A. I., 208
Yon Hin, B. F. Y., 339
Yorkin, A. M., 208

Zdanevitch, I., 656
Zipser, L., 592
Zorin, A. V., 492

Subject Index of Volumes B6 and B7

Acoustic Love-wave sensor
for K^+ concentration in H_2O solutions, 602
Actuator current
simplified design of coulometric sensor–actuator system by application of time-dependent, 479
Admittance spectrum measurements
design of polycrystalline gas sensors based on, 609
Air pollutant
NO_2 monitoring as, using Pb phthalocyanine thin film sensors, 522
Air pollution monitoring
with semiconductor gas sensor array system, 223
β''-Alumina solid electrolyte
limiting-current gas sensor based on, 270
Aluminium
Mg–Al spinel thin film as humidity sensor, 460
Ammonia
molecular recognition of organic solvents and; shapes and donor properties as solvent effects, 25
Ammonia detection
polymer film-based sensors for, 492
Amperometric enzyme electrodes
comparison of native and chemically stabilized enzymes in, 393
Amperometric and potentiometric sensor principles
combination of, for on-line blood monitoring, 91
Amperometric response
of polypyrrole entrapped bienzyme films, 339
Antigen–antibody interactions
direct monitoring, by spectral interferometry, 96
Aquatic living structures
gas metabolism measurements of, by membrane inlet mass spectrometry for water pollution detection, 518
Arsenic
different catalytic metals (Pt, Pd and Ir) for GaAs Schottky barrier sensors, 614
Arsine
detection of phosphine and, in air by sensors based on SnO_2 and ZnO, 727

Barium
$La_{1.825}Sr_{0.175}Cu_{1-x}Fe_xO_y$ and $YBa_2(Cu_{1-x}Fe_x)_3O_y$ for electrodes of electrochemical oxygen sensors, 738
thick film humidity sensors based on $(Ba,Sr)TiO_3$ porous ceramic doped with MgO and CaO, 439
Bienzyme films
amperometric response of polypyrrole entrapped, 339
Bile sensor
optical fibre, for entero-gastric reflux detection, 775
Biochemical sensing
neuronal networks for, 1
Biological systems
microelectronic and nanoelectronic interfacing techniques for, 113
Biomedical applications
fabrication and characterization of ENFET devices for, and environmental monitoring, 202
Bioprocess monitoring
improved micro enzyme sensor for, by flow injection analysis, 404
Biosensor(s)
advanced immobilization and protein techniques on thin film, 356
based on membrane protein lactose permease, 376
in vivo continuous monitoring of glucose by microdialysis and glucose biosensor, 143
determination of organophosphorus insecticides with choline electrochemical, 513
developing biosensors with pH-ISFET transducers utilizing lipid-bilayer membranes with transport proteins, 192
development of thermal micro-biosensor fabricated on Si chip, 127
LB film based membrane for DNA-probe, 208
lectin coated piezoelectric crystal, 347
Love plate, utilising polymer layer, 131
for medical applications, 79
miniaturized disposable, 351
possible developments of potentiometric, 343
recent investigations on calorimetric, 138
for sensitive phosphate detection, 412
thick film, for urea, 321
Blood monitoring
combination of amperometric and potentiometric sensor principles for on-line, 91
Butane
detection of methane/butane mixtures in air by set of two microcalorimetric sensors, 262

Calcium
multisensor array for pH, K^+, Na^+ and Ca^{2+} measurements based on coated-film electrodes, 488
suitable ion-selective sensors for Pb and Ca analysis, 535
Calorimetric biosensors
recent investigations on, 138
Carbon monoxide
comparative study of SnO_2 and CrO_x/SnO_2 powders; their microstructures and their different response to CO, NO, H_2 and CH_4 atmospheres, 691
Carbon-type semiconductors
for construction of humidity-sensitive diode, 61
Catalytic metals
different, (Pt, Pd and Ir) for GaAs Schottky barrier sensors, 614
Catalytic oxidation
of methane on Pt thin films, 656
Catecholamines
applications of plant tissue electrodes for selective determination of, 427
Chalcogenide coating
Cu(II) ion-selective sensor with electrolytically plated, 544
Chalcogenide glasses
ion-implanted, as membrane materials for solid-state chemical sensors, 501
CHEMFETs
application of supramolecular chemistry in development of ion-selective, 179

Chemical analysis system(s)
Si flow cell for optical detection in miniaturized total, 66
Si integrated miniature, 57
Chemical fibre optic plasmon-based sensor
four-layer, 771
Chemically sensitive thin-film transistors
hydrogenated amorphous Si technology for, 29
Chemical semiconductor sensors
diversiform applications of LaF_3 for, 497
Chemical sensor(s)
comparison of ceramic, thick-film and thin-film, based upon SnO_2, 709
electroconducting conjugated polymers; new sensitive matrices to build up, review, 45
ion-implanted chalcogenide glasses as membrane materials for solid-state, 501
light-addressable; modelling and computer simulations, 484
pollution control by, 19
R&D in Japan, 9
Chemosensor array
application-specific design of piezoelectric, 38
Chlorine gas sensor
limiting-current, based on β''-alumina solid electrolyte, 270
SnInO-based, 633
thermodynamic and kinetic behaviour of Cl gas solid-state potentiometric sensors, 637
Choline electrochemical biosensor
determination of organophosphorus insecticides with, 513
Chromium
comparative study of SnO_2 and CrO_x/SnO_2 powders; their microstructures and their different response to CO, NO, H_2 and CH_4 atmospheres, 691
Chronopotentiometry
new aspects of enzyme, 389
CMOS
fabrication and modelling of CMOS microbridge gas-flow sensors, 165
Coated-film electrodes
multisensor array for pH, K^+ Na^+ and Ca^{2+} measurements based on, 488
Computer simulations
light-addressable chemical sensors; modelling and, 484
Copper
Cu(II) ion-selective sensor with electrolytically plated chalcogenide coating, 544
$La_{1.825}Sr_{0.175}Cu_{1-x}Fe_xO_y$ and $YBa_2(Cu_{1-x}Fe_x)_3O_y$ for electrodes of electrochemical oxygen sensors, 738
PPy thin layers grown onto Cu salt replica for sensor array fabrication, 399
Coulometric sensor–actuator system
simplified design of, by application of time-dependent actuator current, 479

Degradation
causes of fast, of thin-film lambda probes in motor vehicle exhaust and initial measures to improve long-term stability, 792
Dew point hygrometer
with heat injection; principle of construction and operation, 455
Dielectric sensor
gas-sensor system with, and mass sensor, 285
Dip-coating process
for preparation of ion-sensitive NASICON thin films, 299
DNA
LB film based membrane for DNA-probe biosensor, 208
Dopants
influence of, on response time and signals of lambda sensors based on thin films of Sr titanate, 231

Electrical properties
microstructure, of α-hematite ceramic humidity sensor, 464
Electrical transport properties
of thin polycrystalline SnO_2 film sensors, 704
Electrochemical sensor(s)
for determination of metal ions, 549
electroconducting conjugated polymers; new sensitive matrices to build up; review, 45
Electroconducting conjugated polymers
new sensitive matrices to build up chemical or electrochemical sensors; review, 45
Electrode metal
influence of nature of screen-printed, on transport and detection properties of thick-film semiconductor gas sensors, 279
Electrode(s)
modelling influence of, on lipid monolayer, 419
Electrolyte/pH-ISFET system
extended model of, 565
Electronic nose
application of, to discrimination of coffees, 71
Energy barrier
sensitivity to reducing gas as function of, in SnO_2 thick-film gas sensor, 717
ENFET devices
fabrication and characterization of, for biomedical applications and environmental monitoring, 202
Entero-gastric reflux detection
optical fibre bile sensor for, 775
Environmental monitoring
fabrication and characterization of ENFET devices for biomedical applications and, 202
Enzyme(s)
comparison of native and chemically stabilized enzymes in amperometric enzyme electrodes, 393
Enzyme chronopotentiometry
new aspects of, 389
Enzyme electrodes
amperometric polypyrrole; effect of permeability and enzyme location, 106
organic phase, for determination of hydrogen peroxide and phenol, 408
Enzyme sensor(s)
improved micro, for bioprocess monitoring by flow injection analysis, 404
new, for phenol determination in non-aqueous and aqueous medium, 383
Ethyl alcohol
novel PVD technique for preparation of SnO_2 thin films as C_2H_5OH sensors, 721
Ethylenedithio-tetrathiafulvalene
evaluation of conducting LB films based on EDT-TTF derivatives for phosphine sensing, 197
Exhaust-gas sensors
comparison of transient response of, based on thin films of selected metal oxides, 787
Explosive gases
one-electrode semiconductor sensors for detection of, in air, 505

Failure detection
on-line, for potentiometric solid-electrolyte oxygen gas sensors, 733
Ferric oxide
change of Fe_2O_3 semiconductor conductivity type in interaction with reducing gases, 626
Fibre optic plasmon-based sensor
four-layer chemical, 771
Fibre-optic smoke sensor, 780
Field-effect structures
visual images of gas mixtures produced with, 157
Flow injection analysis
flow-through pH-ISFET + reference-ISE as integrated detector in automated FIA determination, 555
improved micro-enzyme sensor for bioprocess monitoring by, 404
Fluidic–acoustic gas sensors, 592
Fluorescent-decay temperature sensors
oven to test, 529

Gallium
different catalytic metals (Pt, Pd and Ir) for GaAs Schottky barrier sensors, 614
sensing reducing gases at high temperatures using long-term stable Ga_2O_3 thin films, 257
Gas analysis
using thermal conductivity method, 665
Gas-flow sensors
fabrication and modelling of CMOS microbridge, 165
Gas metabolism measurements
of aquatic living structures by membrane inlet mass spectrometry for water pollution detection, 518
Gas-sensing properties
modification of, of semiconducting oxides by treatment with ionizing radiation, 651
Gas sensor(s)
classical and novel techniques for preparation of SnO_2 thin-film, 239
design of polycrystalline, based on admittance spectrum measurements, 609
fluidic–acoustic, 592
influence of nature of screen-printed electrode metal on transport and detection properties of thick-film semiconductor, 279
integrated optical filters for IR electrooptical, 170
based on integrated optical Mach–Zehnder interferometer, 672
interface and surface statistics for Schottky-barrier, 619
limiting-current Cl gas sensor based on β''-alumina solid electrolyte, 270
mechanical resonance, with piezoelectric excitation and detection using PVDF polymer foils, 596
on-line failure detection for potentiometric solid-electrolyte oxygen, 733
materials selection for semiconductor, 149
polymer membranes for modification of selectivity of field-effect, 661
sensitivity comparison between using SAW and shear horizontal plate-mode oscillators, 274
sensitivity to reducing gas as function of energy barrier in SnO_2 thick-film, 717
sensitization of semiconductor, 289
SnInO-based chlorine, 633
visual images of, produced with field-effect structures, 157
Gas sensor array system
air pollution monitoring with semiconductor, 223
Gas-sensor materials
IR study of; NO interaction of ZnO and TiO_2, pure or modified by metals, 645
Gas-sensor system
with dielectric and mass sensors, 285
Glucose
in vivo continuous monitoring of glucose by microdialysis and glucose biosensor, 143
Glucose sensor
based on LUQUEN principle, 363

α-Hematite
microstructure and electrical properties of, ceramic humidity sensor, 464
Horticultural application
multi-ion sensing device for, based upon chemical modification and special packaging of ISFETs, 34
Humidity response
fast, of metal halide-doped novel polymer, 451
Humidity sensing
optical, characteristics of Nafion–dyes composite thin films, 443
Humidity-sensitive diode
application of carbon-type semiconductors for construction of, 61
Humidity sensor(s)
Mg–Al spinel thin film as, 460
microstructure and electrical properties of α-hematite ceramic, 464
thick film, based on $(Ba,Sr)TiO_3$ porous ceramic doped with MgO and CaO, 439
thin films of I–polyphenylacetylene as starting materials for, 447
Hydrogen
comparative study of SnO_2 and CrO_x/SnO_2 powders; their microstructures and their different response to CO, NO, H_2 and CH_4 atmosphere, 691
integrated optic sensor for detection of H_2 concentrations, 685
modelling non-ideal behaviours in H^+-sensitive FETs with SPICE, 561
Hydrogen chloride
detection by $LiTaO_3$, 677
Hydrogen peroxide
organic phase enzyme electrodes for determination of, 408
Hydrogen-sensitive MOS capacitances
performances of, with integrated on-chip signal conditioning, 162
Hydrogen sulfide
sensitivity and selectivity of doped SnO_2 thick-film sensors to H_2S in constant- and pulsed-temperature modes, 248
Hygrometer
dew point, with heat injection; principle of construction and operation, 455

Immunoglobins
optoimmunosensors for analysis of specific and non-specific classes of, 371
Immunosensing
direct optical; sensitivity and selectivity, 122
ISFET-based FIA system for, 188
Immunosensors
ion-step method applied to separate membranes for development of ion-responding, 308

use of fibre optic, for detection of pesticides, 509
Impedance measurements
detection of charged proteins by means of, 101
Indium
SnInO-based Cl gas sensor, 633
Infrared electrooptical gas sensors
integrated optical filters for, 170
Insecticides
determination of organophosphorus with choline electrochemical biosensor, 513
Integrated optical Mach–Zehnder interferometer
gas sensor based on, 672
Integrated optic sensor
for detection of H_2 concentrations, 685
Interface and surface statistics
for Schottky-barrier gas sensor, 619
Interfacing techniques
microelectronic and nanoelectronic, for biological systems, 113
Interferometer
gas sensor based on integrated optical Mach–Zehnder interferometer, 672
Iodine
thin films of I–polyphenylacetylene as starting materials for humiditiy sensors, 447
Ion determinations
within *Azolla* leaf cavities by microelectrodes, 431
Ion-implanted gate insulator films
characterization of, as ion-selective membrane in ISFETs, 576
Ionizing radiation
modification of gas-sensing properties of semiconducting oxides by treatment with, 651
Ionophores
application of rod-like polymers with, as LB membranes for Si-based ion sensors, 211
Ion-selective CHEMFETs
application of supramolecular chemistry in development of, 179
Ion-selective membrane
characterization of ion-implanted gate insulator films for use as, in ISFETs, 576
Ion-selective optodes
principles and mechanisms of, 295
Ion-selective sensors
Cu(II), with electrolytically plated chalcogenide coating, 544
suitable, for Pb and Ca analysis, 535
Ion-sensitive NASICON thin films
dip-coating process for preparation of, 299
Ion sensors
application of rod-like polymers with ionophores as LB membranes for Si-based, 211
Ion-step method
applied to separate membranes for development of ion-responding immunosensors, 308
Iridium
different catalytic metals (Pt, Pd and Ir) for GaAs Schottky barrier sensors, 614
Iron
$La_{1.825}Sr_{0.175}Cu_{1-x}Fe_xO_y$ and $YBa_2(Cu_{1-x}F_x)_3O_y$ for electrodes of electrochemical oxygen sensors, 738
IR study
of gas-sensor materials; NO interaction of ZnO and TiO_2, pure or modified by metals, 645
ISFET(s)
characterization of ion-implanted gate insulator films for use as ion-selective membrane in, 576
detection of heavy metal ions, in flow injection analysis cell, 304
extended model of electrolyte/hydrogen ion-sensitive FET system, 565
with improved membrane adhesion, 572
modelling non-ideal behaviours in H^+-sensitive FETs with SPICE, 561
multi-ion sensing device for horticultural application based upon chemical modification and special packaging of, 34
multisensor operation of, in constant current mode, 219
Pb-selective FET; complexation selectivity of ionophores embedded in membrane, 580
super-Nernstian pH sensitivity of Ta_2O_5-gate, 367
ISFET-based FIA system
for immunosensing, 188
ISFET catheter
multichannel, for temporal and spatial pH variation studies in stomach over 24 h, 332
ISFET operation
simulation of, based on site-binding model, 315

Japan
chemical sensors R&D in, 9

Lactase permease
biosensor based on membrane protein, 376
Lambda probes
causes of fast degradation of thin-film, in motor vehicle exhaust and initial measures to improve long-term stability, 792
Lambda sensors
influence of dopants on response time and signals of, based on thin films of Sr titanate, 231
Langmuir–Blodgett film(s)
evaluation of conducting LB films based on EDT-TTF derivatives for phosphine sensing, 197
LB film based membrane for DNA-probe biosensor, 208
Langmuir–Blodgett membranes
application of rod-like polymers with ionophores as, for Si-based ion sensors, 211
Lanthanum
diversiform applications of LaF_3 for chemical semiconductor sensors, 497
$La_{1.825}Sr_{0.175}Cu_{1-x}Fe_xO_y$ and $YBa_2(Cu_{1-x}Fe_x)_3O_y$ for electrodes of electrochemical oxygen sensors, 738
Lead
suitable ion-selective sensors for Pb and Ca analysis, 535
Lead phthalocyanine
NO_2 monitoring as air pollutant using, thin film sensors, 522
Lead-selective FET
complexation selectivity of ionophores embedded in membranes, 580
Leaf cavities
ion determinations within *Azolla*, by microelectrodes, 431
Lectin
coated piezoelectric crystal biosensors, 347
Light-addressable chemical sensors
modelling and computer simulations, 484

Lipid
modelling influence of electrodes on lipid monolayer, 419
Lipid-bilayer membranes
developing biosensors with pH-ISFET transducers utilizing, with transport proteins, 192
Lithium
HCl detection by $LiTaO_3$, 677
oxygen gas-sensing characteristics for ZnO(Li) sputtered thin films, 747
Lithium phthalocyanine
oxygen concentration measurements using ESR line modification of PcLi molecules, 266
Love plate biosensor
utilising polymer layer, 131
Love-wave sensor
acoustic, for K^+ concentration in H_2O solutions, 602
Luminescence quenching
glucose sensor based on LUQUEN principle, 363

Magnesium
Mg–Al spinel thin film as humidity sensor, 460
Mass sensor
gas-sensor system with dielectric sensor and, 285
Materials selection
for semiconductor gas sensors, 149
Mechanical resonance gas sensors
with piezoelectric excitation and detection using PVDF polymer foils, 596
Medical applications
biosensors for, 79
Membrane adhesion
ISFET with improved, 572
Membrane inlet mass spectrometry
gas metabolism measurements of aquatic living structures by, for water pollution detection, 518
Membrane materials
ion-implanted chalcogenide glasses as, for solid-state chemical sensors, 501
Membrane protein
biosensor based on, lactose permease, 376
Metal halide-doped novel polymer
fast humidity response of, 451
Metal oxides
comparison of transient response of exhaust-gas sensors based on thin films of selected, 787
Metal ions
detection of heavy, by ISFETs in flow injection analysis cell, 304
electrochemical sensors for determination of, 549
optical sensor for detection of heavy, 540
Methane
catalytic oxidation of, on Pt thin films, 656
comparative study of SnO_2 and CrO_x/SnO_2 powders; their microstructures and their different response to CO, NO, H_2 and CH_4 atmospheres, 691
detection of methane/butane mixtures in air by set of two microcalorimetric sensors, 262
family of Sn oxide-based sensors with improved selectivity to methane, 253
Microcalorimetric sensors
detection of methane/butane mixtures in air by set of two, 262
Microdialysis
in vivo continuous monitoring of glucose by, and glucose biosensor, 143
Molecular recognition
of organic solvents and ammonia; shapes and donor properties as sensor effects, 25
MOS capacitances
performance of hydrogen-sensitive, with integrated on-chip signal conditioning, 162
Motor vehicle exhaust
causes of fast degradation of thin-film lambda probes in, and initial measures to improve long-term stability, 792
Multi-ion sensing device
for horticultural application based upon chemical modification and special packaging of ISFETS, 34
Multisensor operation
of ISFETS in constant current mode, 219

Nafion–dyes composite thin films
optical humidity sensing characteristics of, 443
NASICON thin films
dip-coating process for preparation of ion-sensitive, 299
Neuronal networks
for biochemical sensing, 1
Nitrate
optical sensor for detection of, 473
Nitric oxide
comparative study of SnO_2 and CrO_x/SnO_2 powders; their microstructures and their different response to CO, NO, H_2 and CH_4 atmospheres, 691
detection of NO and unburnt gases in combustion processes using SnO_2 sensors operated at different temperatures, 700
IR study of gas-sensor materials; NO interaction of ZnO and TiO_2, pure or modified by metals, 645
Nitrogen dioxide monitoring
as air pollutant using Pb phthalocyanine thin film sensors, 522

One-electrode semiconductor sensors
for detection of toxic and explosive gases in air, 505
Optical detection
Si flow cell for, in miniaturized total chemical analysis systems, 66
Optical fibre bile sensor
for entero-gastric reflux detection, 775
Optical-fibre oxygen sensor
absorption-based, 752
Optical filters
integrated, for IR electrooptical gas sensors, 170
Optical humidity sensing characteristics
of Nafion–dyes composite thin films, 443
Optical immunosensing
direct; sensitivity and selectivity, 122
Optical sensor
for detection of heavy metal ions, 540
for detection of nitrate, 473
Optodes
principles and mechanisms of ion-selective, 295
Optoimmunosensors
for analysis of specific and non-specific classes of immunoglobins, 371
Organic solvents
molecular recognition of, and ammonia; shapes and donor properties as solvent effects, 25
Organic solvent vapour detection
sensitivity and selectivity of surface acoustic wave sensors for, 587
Organophosphorus insecticides
determination of, with choline electrochemical biosensor, 513

Oven
to test fluorescent-decay temperature sensors, 529
Oxygen
kinetics of oxygen incorporation in $SrTiO_3$ (Fe-doped); optical investigation, 763
oxygen concentration measurements using ESR line modification of PcLi molecules, 266
oxygen gas-sensing characteristics for ZnO(Li) sputtered thin films, 747
Oxygen sensor(s)
absorption-based optical fibre, 752
influence of surface transfer reaction on response of resistive oxygen sensors, 742
$La_{1.825}Sr_{0.175}Cu_{1-x}Fe_xO_y$ and $YBa_2(Cu_{1-x}Fe_x)_3O_y$ for electrodes of electrochemical oxygen sensors, 738
on-line failure detection for potentiometric solid-electrolyte oxygen gas sensors, 733
ultramicroelectrode arrays as transducers for new amperometric, 758

Palladium
different catalytic metals (Pt, Pd and Ir) for GaAs Schottky barrier sensors, 614
Permeability
amperometric polypyrrole enzyme electrodes; effect of, and enzyme location, 106
Pesticides
use of fibre optic immunosensor for detection of, 509
Phenol determination
new enzyme sensor for, in non-aqueous and aqueous medium, 383
organic phase enzyme electrodes for, 408
pH
multisensor array for pH, K^+, Na^+ and Ca^{2+} measurements based on coated-film electrodes, 488
pH-ISFET
flow-through pH-ISFET + reference-ISE as integrated detector in automated FIA determination, 555
pH-ISFET transducers
developing biosensors with, utilizing lipid-bilayer membranes with transport proteins, 192
Phosphate detection
biosensor for sensitive, 412
Phosphine
detection of, and arsine in air by sensors based on SnO_2 and ZnO, 727
Phosphine sensing
evaluation of conducting LB films based on EDT-TTF derivatives for, 197
pH sensor
spectral investigation and optimization of, 83
pH sensitivity
super-Nernstian, of Ta_2O_5-gate ISFETs, 367
pH variation studies
multichannel ISFET catheter for temporal and spatial, in stomach over 24 h, 332
Piezoelectric chemosensor array
application-specific design, 38
Plant tissue electrodes
applications of, for selective determination of catecholamines, 427
Plant metabolism
as analytical tool; applications of plant tissue electrodes for selective determination of catecholamines, 427
Platinum
catalytic oxidation of methane on Pt thin films, 656
different catalytic metals (Pt, Pd and Ir) for GaAs Schottky barrier sensors, 614
Pollution control
continuous, by chemical sensors, 19
Polymer film-based sensors
for ammonia detection, 492
Polymer membranes
for modification of selectivity of field-effect gas sensors, 661
Polyphenylacetylene
thin films of I–polyphenylacetylene as starting materials for humidity sensors, 447
Polypyrrole
amperometric polypyrrole enzyme electrodes; effect of permeability and enzyme location, 106
amperometric response of, entrapped bienzyme films, 339
PPy thin layers grown onto Cu salt replica for sensor array fabrication, 399
Polyvinylidene fluoride
mechanical resonance gas sensors with piezoelectric excitation and detection using PVDF polymer foils, 596
Potassium
acoustic Love-wave sensor for K^+ concentration in H_2O solutions, 602
multisensor array for pH, K^+, Na^+ and Ca^{2+} measurements based on coated-film electrodes, 488
Potentiometric biosensor
possible developments of, 343
Protein(s)
advanced immobilization and protein techniques on thin film biosensors, 356
detection of charged, by means of impedance measurements, 101
PVD technique
novel, for preparation of SnO_2 thin films as C_2H_5OH sensors, 721

Reducing gas(es)
change of Fe_2O_3 semiconductor conductivity type in interaction with, 626
sensing, at high temperatures using long-term stable Ga_2O_3 thin films, 257
sensitivity to, as function of energy barrier in SnO_2 thick-film gas sensor, 717

Schottky-barrier gas sensor
interface and surface statistics for, 619
Schottky barrier sensors
different catalytic metals (Pt, Pd and Ir) for GaAs, 614
Semiconducting oxides
modification of gas-sensing properties of, by treatment with ionizing radiation, 651
Sensor effects
molecular recognition of organic solvents and ammonia; shapes and donor properties as, 25
Shear horizontal plate-mode oscillators
sensitivity comparison between gas sensors using SAW and, 274

Silicon
application of rod-like polymers with ionophores as LB membranes for Si-based ion sensors, 211
development of thermal micro-biosensor fabricated on Si chip, 127
hydrogenated amorphous Si technology for chemically sensitive thin-film transistors, 29
Si flow cell for optical detection in miniaturized total chemical analysis systems, 66
Si integrated miniature chemical analysis system, 57
Site-binding model
simulation of ISFET operation based on, 315
Skin blood flow
thermal conductivity sensor for measurement of, 327
Smoke sensor
fibre-optic, 780
Sodium
multisensor array for pH, K^+, Na^+ and Ca^{2+} measurements based on coated-film electrodes, 488
Solid-state potentiometric sensors
thermodynamic and kinetic behaviour of Cl gas, 637
Spectral interferometry
direct monitoring antigen–antibody interactions by, 96
Spectral investigation
and optimization of pH and urea sensors, 83
SPICE
modelling non-ideal behaviours in H^+-sensitive FETs with, 561
Stomach
multichannel ISFET catheter for temporal and spatial pH variation studies in, over 24 h, 332
Strontium
influence of dopants on response time and signals of lambda sensors based on thin films of Sr titanate, 231
kinetics of oxygen incorporation in $SrTiO_3$ (Fe-doped); optical investigation, 763
$La_{1.825}Sr_{0.175}Cu_{1-x}Fe_xO_y$ and $YBa_2(Cu_{1-x}Fe_x)_3O_y$ for electrodes of electrochemical oxygen sensors, 738
thick film humidity sensors based on $(Ba,Sr)TiO_3$ porous ceramic doped with MgO and CaO, 439
Surface acoustic wave
sensitivity comparison between gas sensors using SAW and shear horizontal plate-mode oscillators, 274
Surface acoustic wave sensors
sensitivity and selectivity of SAW sensors for organic solvent vapour detection, 587
Surface transfer reaction
influence of, on response characteristics of resistive oxygen sensors, 742

Tantalum
HCl detection by $LiTaO_3$, 677
super-Nernstian pH sensitivity of Ta_2O_5-gate ISFETs, 367
Temperature sensors
oven to test fluorescent-decay, 529
Thermal conductivity method
gas analysis using, 665
Thermal conductivity sensor
for measurement of skin blood flow, 327
Thermal diffusion probes
for tissue blood flow measurement, 87
Thermal micro-biosensor
development of, fabricated on Si chip, 127
Thermodynamic and kinetic behaviour
of Cl gas solid-state potentiometric sensors, 637
Tin
classical and novel techniques for preparation of SnO_2 thin-film gas sensors, 239
comparative study of SnO_2 and CrO_x/SnO_2 powders; their microstructures and their different response to CO, NO, H_2 and CH_4 atmospheres, 691
comparison of ceramic, thick-film and thin-film chemical sensors based upon SnO_2, 709
detection of NO and unburnt gases in combustion processes using SnO_2 sensors operated at different temperatures, 700
detection of phosphine and arsine in air by sensors based on SnO_2 and ZnO, 727
electrical transport properties of thin polycrystalline SnO_2 film sensors, 704
family of Sn oxide-based sensors with improved selectivity to methane, 253
novel PVD technique for preparation of SnO_2 thin films as C_2H_5OH sensors, 721
sensitivity to reducing gas as function of energy barrier in SnO_2 thick-film gas sensor, 717
sensitivity and selectivity of doped SnO_2 thick-film sensor to H_2S in constant- and pulsed-temperature modes, 248
SnInO-based Cl gas sensor, 633
Tissue blood flow measurements
thermal diffusion probes for, 87
Titanium
IR study of gas-sensor materials; NO interaction of ZnO and TiO_2, pure or modified by metals, 645
kinetics of oxygen incorporation in $SrTiO_3$ (Fe-doped); optical investigation, 763
thick film humidity sensors based on $(Ba,Sr)TiO_3$ porous ceramic doped with MgO and CaO, 439
Toxic gases
one-electrode semiconductor sensors for detection of, in air, 505
Transducers
ultramicroelectrode arrays as, for new amperometric oxygen sensors, 758
Transient response
comparison of, of exhaust-gas sensors based on thin films of selected metal oxides, 787
Transport and detection properties
influence of nature of screen-printed electrode metal on, of thick-film semiconductor gas sensors, 279
Transport proteins
developing biosensors with pH-ISFET transducers utilizing lipid-bilayer membranes with, 192

Ultramicroelectrode arrays
as transducers for new amperometric oxygen sensors, 758
Urea
thick film biosensors for, 321
Urea sensor
spectral investigation and optimization of pH and, 83

Vapour detection
sensitivity and selectivity of SAW sensors for organic solvent, 587
Visual images
of gas mixtures produced with field-effect structures, 157

Water pollution detection
gas metabolism measurements of aquatic living structures by membrane inlet mass spectrometry for, 518

Yttrium
$La_{1.825}Sr_{0.175}Cu_{1-x}Fe_xO_y$ and $YBa_2(Cu_{1-x}Fe_x)_3O_y$ for electrodes of electrochemical oxygen sensors, 738

Zinc
detection of phosphine and arsine in air by sensors based on SnO_2 and ZnO, 727
IR study of gas-sensor materials; NO interaction of ZnO and TiO_2, pure or modified by metals, 645
oxygen gas-sensing characteristics for ZnO(Li) sputtered thin films, 747